

## Course Requirements and Registration Priorities (Undergraduate), Fall 2019

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
<b>SoM</b>											
<b>Nursing</b>											
1	NUR 101	Human Anatomy and Physiology 1 and Lab	4	8				Nursing			
2	NUR 112	Introduction to Professional Nursing	2	4				Nursing			
3	NUR 301	Nutrition for Clinical Practice	3	6				For Applied Nursing program only			
4	NUR 302	Physical Assessment Across the Lifespan	4	8				For Applied Nursing program only			
5	NUR 303	Nursing Care of Older Adults	4	8				For Applied Nursing program only			
6	NUR 304	Introduction to Basic Statistics for Evidence Based Practice	3	6				For Applied Nursing program only			
<b>SMG</b>											
<b>Petroleum Engineering</b>											
7	PETE 201	Fluid Mechanics and Thermodynamics	3	6	MATH 161 Calculus I (118) (D and above) OR CHEM 101 General Chemistry I (113) (D and above)			SMG	SEDS, SSH, SoM		
<b>School of Mining and Geosciences</b>											
8	GEOL 201	Mineralogy	3	6				SMG	SEDS, SSH, SoM		
9	GEOL 202	Geologic Maps & Cross-Sections	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			SMG	SEDS, SSH, SoM		
<b>SSH</b>											
<b>Biological Science</b>											
10	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	Anthropology, Economics, History, Nursing, Political Science and International Relations, SEDS, SMG, Sociology, Undeclared, World Languages, Literature and Culture			

11	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	Computer Science, Mathematics, Physics, Robotics and Mechatronics	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared, World Languages, Literature and Culture	
12	BIOL 230	Human Anatomy and Physiology I	4	8	BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
13	BIOL 305	Introduction to Microbiology with Lab	4	8	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
14	BIOL 320	Developmental Biology	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
15	BIOL 340	Introduction to Bioinformatics with Lab	4	8	BIOL 120 Modern Biology II (1195) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
16	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
17	BIOL 352	Biology of Cancer	3	6	BIOL 231 Human Anatomy and Physiology II (479) (C and above) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
18	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II (177) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
19	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
20	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
21	BIOL 410	Immunology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	

22	BIOL 425	Biomedical Research Methods	3	6	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) AND BIOL 341 Biochemistry I (2002) (C and above)			Biological Sciences			
23	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
24	BIOL 470	Advanced Cell Biology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
25	BIOL 490	Graduation Project 1	4	8				Instructor's Permission Required			
26	BIOL 492	Directed Study in Biology	3	6				Instructor's Permission Required			
<b>Chemistry</b>											
27	CHEM 090	Chemistry for Non-Science majors	3	6				Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared, World Languages, Literature and Culture			
28	CHEM 091	Survey of Physical Science	3	6				Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared, World Languages, Literature and Culture			
29	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry	Mathematics, Physics	SMG	
30	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		Biological Sciences, Chemistry		SMG	
31	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			SMG	Biological Sciences, Chemistry	SEDS, SSH, SoM	

32	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			Biological Sciences, Chemistry	SEDS, SMG, SSH, SoM		
33	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		Biological Sciences, Chemistry	SEDS, SMG, SSH, SoM		
34	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
35	CHEM 220L	Quantitative Chemical Analysis Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 220 Quantitative Chemical Analysis (555) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
36	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
37	CHEM 331L	Physical Chemistry Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 331 Physical Chemistry I (634) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
38	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above) AND BIOL 120 Modern Biology II (1195) (C- and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
39	CHEM 341L	Biochemistry I Lab	1	2	CHEM 212L Organic Chemistry II Lab (444) (C and above)	CHEM 341 Biochemistry I (1058) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
40	CHEM 350	Advanced Inorganic Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
41	CHEM 350L	Advanced Inorganic Chemistry Laboratory	1	2	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
42	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

43	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
44	CHEM 471	Environmental Chemistry	3	6	CHEM 320 Instrumental Analysis (1055) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
<b>Communication and Composition</b>											
45	SHSS 300	SHSS Internship	3	6				Instructor permission required			
46	SHSS 301	SHSS Internship Second Experience	3	6				Instructor's permission only			
47	WCS 150	Rhetoric and Composition	3	6				SEDS, SMG, SSH, SoM			
48	WCS 202	Introduction to Public Speaking	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			2 year UG SSH		2 year UG SEDS, 2 year UG SMG	
49	WCS 210	Technical and Professional Writing	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
50	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
51	WCS 240	Writing for Digital Media	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
52	WCS 390	Writing Fellows I - Composition and Collaboration in Theory and Practice	3	6	WCS 150 Rhetoric and Composition (2183) (B+ and above) AND (WCS 210 Technical and Professional Writing (4881) (B+ and above) OR () ( and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (B+ and above) OR WCS 240 Writing for Digital Media (4421) (B+ and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (B+ and above))			Instructor's Permission Required			
<b>Communication and Composition, Languages, Literature and Linguistics</b>											
53	WCS 260/WLL 235	Creative Writing: Introduction to Fiction Writing I	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
<b>Economics</b>											
54	ECON 101	Introduction to Microeconomics	3	6				SEDS, SMG, SSH, SoM			

55	ECON 102	Introduction to Macroeconomics	3	6				SEDS, SMG, SSH, SoM		
56	ECON 201	Intermediate Microeconomics	3	6	ECON 101 Introduction to Microeconomics (379) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics		SSH
57	ECON 202	Intermediate Macroeconomics	3	6	ECON 102 Introduction to Macroeconomics (503) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics		SSH
58	ECON 211	Economic Statistics	3	6	ECON 101 Introduction to Microeconomics (379) (C and above) OR ECON 102 Introduction to Macroeconomics (503) (C and above)			Economics		SSH
59	ECON 300	Research Assistance in Economics	1	2	ECON 101 Introduction to Microeconomics (379) (C- and above) AND ECON 102 Introduction to Macroeconomics (503) (C- and above)			Instructor permission required		
60	ECON 301	Econometrics I	3	6	ECON 211 Economic Statistics (2280) (C- and above) OR (MATH 321 Probability (482) (C- and above) AND (MATH 322 Mathematical Statistics (1165) (C- and above) OR MATH 310 Applied Statistical Methods (82) (C- and above)))			Economics		SSH
61	ECON 317	East Asian Economic Development	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics		SSH
62	ECON 322	Natural Resources and Environmental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		ECON 331 Environmental Economics (1687) (C- and above)	Economics		SSH
63	ECON 325	International Trade	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics		SSH
64	ECON 326	The Economics of Financial Markets	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics		SSH
65	ECON 399	Independent Study in Economics	3	6				Economics		SSH

66	ECON 403	Introduction to Contract Theory and Auctions	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
67	ECON 405	Behavioral and Experimental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
68	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
69	ECON 417	Development Economics	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
<b>History, Philosophy and Religious Studies</b>											
70	HST 100	History of Kazakhstan	3	6				4 year UG SEDS, 4 year UG SEDS(pending graduation), 4 year UG SSH, 4 year UG SSH (pending graduation)	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	
71	HST 104	Central Asian History II (1700 - 1991)	3	6				History, Undeclared	SEDS, SMG, SSH, SoM		
72	HST 105	Introduction to Eurasian Environmental History	3	6				History, Undeclared	SEDS, SMG, SSH, SoM		
73	HST 124	Introduction to the History of Medicine	3	6				History, Undeclared	SEDS, SMG, SSH, SoM		
74	HST 151	US History I (to 1877)	3	6				History, Undeclared	SEDS, SMG, SSH, SoM		
75	HST 232	Russian History from Rurik to Catherine the Great	3	6				SSH	SEDS, SMG, SoM		
76	HST 235	Peter the Great (1682-1725): First Emperor of Russia and "Father of the Fatherland"	3	6				SSH	SEDS, SMG, SoM		

77	HST 335	European Nationalisms	3	6	HST 100 History of Kazakhstan (172) (C- and above) OR HST 103 Central Asian History I (to 1700) (197) (C- and above) OR HST 104 Central Asian History II (1700 - 1991) (1192) (C- and above) OR HST 121 World History I (to 1500) (1193) (C- and above) OR HST 122 World History II (from 1500) (1162) (C- and above) OR HST 131 European History I (to 1700) (201) (C- and above) OR HST 132 European History II (from 1700) (139) (C- and above) OR HST 151 US History I (to 1877) (668) (C- and above) OR HST 152 US History II (from 1877) (465) (C- and above) OR HST 172 Middle Eastern History II (from 1800) (1194) (C- and above) OR HST 182 East Asian History II (from 1500) (213) (C- and above) OR HST 199 Freshman Seminar (241) (C- and above)			SSH	SEDS, SMG, SoM		
78	HST 336	The Totalitarian Phenomenon	3	6	HST 100 History of Kazakhstan (172) (C- and above)			SSH	SEDS, SMG, SoM		
79	HST 420	The Russian Empire in Asia and its Neighbours 1552-1919	3	6	Subject "HST" BETWEEN 200 and 299 OR Subject "HST" BETWEEN 300 and 399			SSH	SEDS, SMG, SoM		
80	HST 498	Directed Reading	3	6				History			
81	PHIL 101	Introduction to Philosophy	3	6				SEDS, SMG, SSH, SoM			
82	PHIL 110	The Good Life in Practice	3	6				SEDS, SMG, SSH, SoM			
83	PHIL 124	Knowledge and Reality	3	6				SEDS, SMG, SSH, SoM			
84	PHIL 141	Critical Thinking	3	6				SEDS, SMG, SSH, SoM			



85	PHIL 210	Ethics	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 2 year UG SMG	SEDS, SMG, SSH, SoM		
86	PHIL 215	Bioethics	3	6				SEDS, SMG, SSH, SoM			
87	PHIL 223	Philosophy of Science	3	6				SEDS, SMG, SSH, SoM			
88	PHIL 240	Formal Logic	3	6				SEDS, SMG, SSH, SoM			
89	PHIL 320	Truth, Knowledge and Belief	3	6				SEDS, SMG, SSH, SoM			
90	PHIL 325	Truth, Lies, Media, and Propaganda	3	6				SEDS, SMG, SSH, SoM			
91	PHIL 352	Sex, Life, and Death: The Philosophy of Biology	3	6				SEDS, SMG, SSH, SoM			
<b>History, Philosophy and Religious Studies, History, Philosophy and Religious Studies</b>											
92	HST 261/REL 261	History of Islam (570s to 1258)	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "REL" BETWEEN 100 and 199			SSH	SEDS, SMG, SoM		
<b>History, Philosophy and Religious Studies, Political Science and International Relations</b>											
93	HST 312/PLS 333	Comparative Colonialism	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR Subject "PLS" BETWEEN 100 and 199			SSH	SEDS, SMG, SoM		
<b>History, Philosophy and Religious Studies, Sociology and Anthropology</b>											
94	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	

95	HST 223/ANT 287	Cannibalism and Civilization	3	6				SSH	SEDS, SMG, SoM		
<b>Kazakh Language and Turkic Studies</b>											
96	KAZ 201	Academic Kazakh I	3	6	KLL "Basic" OR KLL "Intermediate"			SEDS, SMG, SSH, SoM			
97	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
98	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "Upper-Intermediate" OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
99	KAZ 212	Academic Writing in Kazakh	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
100	KAZ 226	Kazakh for Medical School	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
101	KAZ 313	Kazakh for Business	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
102	KAZ 349	Kazakh Mythology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
103	KAZ 351	Kazakh Short Stories	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
104	KAZ 354	Kazakh Drama	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
105	KAZ 356	Kazakh Music History	3	6	KLL "Advanced"			SEDS, SMG, SSH, SoM			
106	KAZ 357	Literature of Alash	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
107	KAZ 362	Creative Writing in Kazakh Language	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
108	KAZ 363	Language and Globalization	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
109	KAZ 364	Kazakh for Civil Service	3	6	KLL "Advanced" OR KLL "Upper-Intermediate" OR KAZ 314 Speech Culture in Business (1836) (C- and above)			SEDS, SMG, SSH, SoM			
110	KAZ 366	Kazakh Language for Engineers	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
111	KAZ 368	Onomastics: History and Function of Names	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"			SEDS, SMG, SSH, SoM			
112	KAZ 371	Contemporary Kazakh Literature	3	6	KLL "Advanced"			SEDS, SMG, SSH, SoM			

113	KAZ 372	Language and ethnicity	3	6	KLL "Advanced" OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above)			SEDS, SMG, SSH, SoM			
114	KAZ 373	Kazakh Terminology	3	6	KLL "Advanced" OR KAZ 202A Kazakh Literature 2/K(C) (228) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above)			SEDS, SMG, SSH, SoM			
115	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202A Kazakh Literature 2/K(C) (228) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above) OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
116	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KLL "Advanced" OR KAZ 202A Kazakh Literature 2/K(C) (228) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above)			SEDS, SMG, SSH, SoM			
117	TUR 231	Istanbul in Literature and Culture	3	6				SEDS, SMG, SSH, SoM			
118	TUR 305	Introduction to Chagatay and Ottoman Turkish	3	6	KAZ 111 Intermediate Kazakh I (743) (C- and above) OR KAZ 121 Upper-Intermediate Kazakh (744) (C- and above) OR KLL "Advanced"			SEDS, SMG, SSH, SoM			
119	TUR 375	Topics in Turkic Studies	3	6				SEDS, SMG, SSH, SoM			
<b>Languages, Literature and Linguistics</b>											
120	CHN 101	Beginning Mandarin I	4	8				SEDS, SMG, SSH, SoM			
121	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (B- and above)			SEDS, SMG, SSH, SoM			
122	FRE 201	Intermediate French I	4	8	FRE 102 Beginning French II (454) (C- and above)			SEDS, SMG, SSH, SoM			
123	KOR 101	Beginning Korean I	4	8				SEDS, SMG, SSH, SoM			
124	KOR 201	Intermediate Korean I	4	8	KOR 102 Beginning Korean II (4791) (C- and above)			SEDS, SMG, SSH, SoM			
125	LING 131	Introduction to Linguistics	3	6				World Languages, Literature and Culture	Undeclared	SSH	

126	LING 140	Language Variation and Change: the Story of English	3	6				World Languages, Literature and Culture	Undeclared	SSH	
127	LING 272	Language and the Mind	3	6				SSH	SEDS, SMG, SoM		
128	LING 275	Second Language Acquisition Theory and Research I	3	6				SSH	SEDS, SMG, SoM		
129	LING 278	Sounds of the World's Languages	3	6				SSH	SEDS, SMG, SoM		
130	LING 472	Language Ideologies	3	6	LING 130 Introduction to Language and Communication (4014) (C- and above) OR LING 131 Introduction to Linguistics (1394) (C- and above) OR ANT 277/WLL 271 Language and Society (1027) (C- and above)			SSH	SEDS, SMG, SoM		
131	PER 201	Intermediate Persian 1	4	8	PER 102 Beginning Persian II (4790) (C- and above)			SEDS, SMG, SSH, SoM			
132	RFL 403	Advanced and Superior Composition and Conversation Russian	4	8				Instructor's permission required.			
133	SPA 101	Beginning Spanish I	4	8				World Languages, Literature and Culture	Undeclared	SSH	
134	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			SEDS, SMG, SSH, SoM			
135	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)			SEDS, SMG, SSH, SoM			
136	WLL 110	Introduction to Literary Studies	3	6				World Languages, Literature and Culture	Undeclared	SSH	
137	WLL 121	Introduction to Cultural Studies	3	6				World Languages, Literature and Culture	Undeclared	SSH	
138	WLL 201	World Literature I	3	6				World Languages, Literature and Culture	Undeclared	SSH	
139	WLL 212	Introduction to Poetry	3	6				World Languages, Literature and Culture	Undeclared	SSH	
140	WLL 244	Survey of Nineteenth-Century Russian Literature	3	6				World Languages, Literature and Culture	Undeclared	SSH	
141	WLL 450	Laughter	3	6				World Languages, Literature and Culture	Undeclared	SSH	

142	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				4 year UG SSH World Language, Literature and Culture			
<b>Languages, Literature and Linguistics, Languages, Literature and Linguistics</b>											
143	FRE 361/WLL 361	Topics in French and Francophone film	3	6				SEDS, SMG, SSH, SoM			
144	SPA 351/WLL 351	Literature and Film of the Postcolonial World	3	6	Subject "WLL" BETWEEN 200 and 299			SEDS, SMG, SSH, SoM			
<b>Languages, Literature and Linguistics, Sociology and Anthropology</b>											
145	ANT 385/WLL 385	Postcolonial Theory and its Applications in Eurasia	3	6	ANT 101 Introduction to Sociocultural Anthropology (501) (C- and above) OR SOC 101 Introduction to Sociology (508) (C- and above) OR WLL 121 Introduction to Cultural Studies (243) (C- and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C- and above)			Anthropology, Sociology, World Languages, Literature and Culture	SSH		SEDS, SMG, SoM
146	WLL 171/ANT 175	Introduction to Linguistic Anthropology	3	6			ANT 277/WLL 271 Language and Society (1027) (C- and above)	Anthropology, Sociology, World Languages, Literature and Culture	Undeclared		SSH
<b>Mathematics</b>											
147	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)	Anthropology, History, Political Science and International Relations, Sociology, Undeclared, World Languages, Literature and Culture			
148	MATH 161	Calculus I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Mathematics, 1 year UG SSH Physics	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG		SSH, SoM
149	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH Chemistry, 2 year UG SSH Mathematics, 2 year UG SSH Physics	SEDS, SMG, SSH, SoM		
150	MATH 251	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics	Computer Science		SEDS, SMG, SSH, SoM

151	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			Mathematics	Physics, SEDS	SMG, SSH, SoM	
152	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		2 year UG SSH Physics, Mathematics	Computer Science, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
153	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
154	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 322 Mathematical Statistics (1165) (D and above)	Biological Sciences, Computer Science	Mathematics	SEDS, SMG, SSH, SoM	
155	MATH 321	Probability	3	6	MATH 162 Calculus II (170) (C and above)		ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)	Computer Science, Mathematics	SEDS, SMG, SSH, SoM		
156	MATH 323	Actuarial Mathematics I	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above) OR (MATH 162 Calculus II (170) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above))			Mathematics	SEDS, SMG, SSH, SoM		
157	MATH 351	Numerical Methods with Applications	3	6	MATH 274 Introduction to Differential Equations (484) (C and above) AND MATH 263 Calculus III (81) (C and above)		ENG 202 Numerical Methods in Engineering (5506) (C and above)	Mathematics	SEDS, SMG, SSH, SoM		
158	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
159	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		

160	MATH 440	Regression Analysis	3	6	MATH 322 Mathematical Statistics (1165) (C and above)		SOC 203 Quantitative Methods in Sociology (1377) (C and above) OR PLS 211 Quantitative Methods (221) (C and above)	Mathematics	SEDS, SMG, SSH, SoM		
161	MATH 471	Nonlinear Differential Equations	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
162	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
163	MATH 481	Partial Differential Equations	3	6	MATH 274 Introduction to Differential Equations (484) (C and above)	MATH 480 Complex Analysis (618) (C and above)		Mathematics	SEDS, SMG, SSH, SoM		
164	MATH 497	Directed Study in Mathematics I	3	6				Instructor's Permission Required			
<b>Physics</b>											
165	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Mathematics, 1 year UG SSH Physics, 2 year UG SSH Chemistry	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
166	PHYS 201	Introductory Astronomy I	3	6				SEDS, SMG, SSH, SoM			
167	PHYS 221	Classical Mechanics I	3	6	(PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Physics		SEDS, SMG, SSH, SoM	

168	PHYS 261	Modern Physics with laboratory	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Physics	SEDS, SMG, SSH, SoM		
169	PHYS 315	Mathematical Methods of Physics	3	6	(PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Physics	SEDS, SMG, SSH, SoM		
170	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Mathematical Methods of Physics (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)		Physics	SEDS, SMG, SSH, SoM		
171	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			Physics	SEDS, SMG, SSH, SoM		
172	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics	SEDS, SMG, SSH, SoM		
173	PHYS 473	Introduction to Solid State Physics	3	6	PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above) AND PHYS 451 Quantum Mechanics I (1415) (C- and above)			Physics	SEDS, SMG, SSH, SoM		
<b>Political Science and International Relations</b>											
174	PLS 100	Introduction to the Politics of Central Asia	3	6				SSH	SEDS, SMG, SoM		
175	PLS 101	Introduction to Political Science	3	6				SEDS, SMG	Biological Sciences, Chemistry, Mathematics, Physics	SSH	



176	PLS 120	Introduction to Political Theory	3	6				Political Science and International Relations	Undeclared	SEDS, SMG, SSH, SoM	
177	PLS 140	Introduction to Comparative Politics	3	6				Political Science and International Relations	Undeclared	SEDS, SMG, SSH, SoM	
178	PLS 150	Introduction to International Relations	3	6				Political Science and International Relations	Undeclared	SEDS, SMG, SSH, SoM	
179	PLS 210	Political Science Research Methods	3	6				Political Science and International Relations	SEDS, SMG, SSH, SoM		
180	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	Political Science and International Relations	SEDS, SMG, SSH, SoM		
181	PLS 295	Asian Community	3	6				SSH	SEDS, SMG, SoM		
182	PLS 315	Political Game Theory	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
183	PLS 326	Modern Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
184	PLS 329	Anarchy	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
185	PLS 338	U.S. Government and Politics	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 101 Introduction to Political Science (513) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
186	PLS 341	Politics of Development	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
187	PLS 342	Political Corruption	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
188	PLS 365	Civil-Military Relations	3	6	PLS 211 Quantitative Methods (221) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
189	PLS 370	Law, Politics and Society	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		

190	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
191	PLS 446	The Politics of Immigration Control	3	6	PLS 140 Introduction to Comparative Politics (223) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
192	PLS 448	Comparative Electoral System	3	6	PLS 140 Introduction to Comparative Politics (223) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
193	PLS 455	The Politics of Arms in International Relations	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
194	PLS 465	Politics of International Finance	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
<b>Sociology and Anthropology</b>											
195	ANT 101	Introduction to Sociocultural Anthropology	3	6				Anthropology, Sociology, Undeclared	2 year UG SSH	SEDS, SMG, SSH, SoM	
196	ANT 140	World Prehistory	3	6				Anthropology, Sociology, Undeclared	2 year UG SSH, 4 year UG SEDS Computer Science, 4 year UG SEDS Robotics and Mechatronics, 4 year UG SSH Biological Sciences, 4 year UG SSH Chemistry, 4 year UG SSH Mathematics, 4 year UG SSH Physics	SEDS, SMG, SSH, SoM	
197	ANT 233	Cavemen, Mammoths, and Sabertooths: Stone Age Archaeology in Eurasia	3	6				Anthropology, Sociology, Undeclared	2 year UG SSH	SEDS, SMG, SSH, SoM	
198	ANT 361	Human Evolution: Bones, Stones and Genomes	3	6				Anthropology, Biological Sciences, Sociology	SSH	SEDS, SMG, SoM	
199	ANT 382	Anthropology of Global Health: The Global in the Local	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
200	ANT 400	Research Assistance in Anthropology	1	2							

201	ANT 401	Research Assistance in Anthropology	1	2						
202	ANT 498	Capstone Seminar I	3	6				4 year UG SSH Anthropology		
203	SOC 101	Introduction to Sociology	3	6				Anthropology, Sociology, Undeclared	2 year UG SSH, 3 year UG SSH Biological Sciences	SEDS, SMG, SSH, SoM
204	SOC 115	Global Social Problems	3	6				Anthropology, Sociology, Undeclared	2 year UG SSH	SEDS, SMG, SSH, SoM
205	SOC 201	Social Science Research Methods	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM
206	SOC 210	Gender and Society	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM
207	SOC 213	Work and Society	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM
208	SOC 215	Sociology of Race and Ethnicity	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM
209	SOC 221	International Migration	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM
210	SOC 301	Classical Sociological Theory	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			Anthropology, Sociology	SSH	SEDS, SMG, SoM
211	SOC 310	Social Inequality	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			Anthropology, Sociology	SSH	SEDS, SMG, SoM
212	SOC 322	Digital Media Research Methods	3	6	SOC 201 Social Science Research Methods (1341) (C- and above) OR SOC 203 Quantitative Methods in Sociology (1377) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above) OR PLS 210 Political Science Research Methods (129) (C- and above)			Anthropology, Sociology	SSH	SEDS, SMG, SoM
213	SOC 401	Research Assistance in Sociology	1	2				Instructor's permission required		
214	SOC 403	Research Assistance in Sociology	2	4				Instructor's permission required		
215	SOC 498	Capstone Seminar Part I	3	6				4 year UG SSH Sociology		

**Sociology and Anthropology, Sociology and Anthropology**

216	ANT 216/SOC 216	Marriage and Kinship	3	6				Anthropology, Sociology	2 year UG SSH	SEDS, SMG, SSH, SoM	
<b>SEDS</b>											
<b>Chemical and Materials Engineering</b>											
217	CHME 200	Basic Principles and Calculations in Chemical Engineering	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
218	CHME 201	Chemical Engineering Thermodynamics	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

219	CHME 222	Inorganic and Analytical Chemistry	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
220	ECHE 333	Separation Processes-I	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above)			Registration by School Administration			
221	ECHE 369	Transport Phenomena-II	3	6				Registration by School Administration			
222	ECHE 385	Research Practice	3	6				Registration by School Administration			
223	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)			Registration by School Administration			
224	ECHE 463	Introduction to Molecular Modeling Methods	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

225	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)			4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
226	ECHE 481	Chemical Reaction Engineering	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above) AND BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)			Registration by School Administration			
227	ECHE 484	Multi-Phase Flows	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 270 Transport Phenomena-I (735) (D and above)			4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
228	ECHE 486	Chemical Process Safety	3	6				Registration by School Administration			

229	ECHE 487	Soft Matter, Foods and Colloids	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
230	ECHE 488	Atmospheric Chemistry and Physics	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

**Civil Engineering**

231	CEE 200	Structural Mechanics I	3	6				2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
232	CEE 201	Environmental Chemistry	3	6				2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	



233	CEE 204	Civil Engineering CAD and Surveying	3	6				2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
234	ECE 303	Construction Management and Practice	3	6	BENG 148 Engineering Practice (1073) (D and above)			Registration by School Administration			
235	ECE 307	Engineering Geology and Rock Mechanics	3	6				Registration by School Administration			
236	ECE 318	Structural Design - Concrete	3	6	ECE 479 Structural Analysis II (2460) (C- and above)			Registration by School Administration			
237	ECE 401	Capstone Project 1	3	6				Registration by School Administration			
238	ECE 404	Construction Technologies and Processes	3	6	BENG 148 Engineering Practice (1073) (D and above) AND ECE 302 Civil Engineering Materials (1040) (D and above)			Registration by School Administration			
239	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)			Registration by School Administration			
240	ECE 416	Highway Engineering	3	6	ECE 302 Civil Engineering Materials (1040) (D and above)			Registration by School Administration			

241	ECE 421	Behaviour and Design of Structural System	3	6	(ECE 318 Structural Design - Concrete (3709) (D and above) OR ECE 314 Structural Engineering Applications I (1042) (D and above)) AND (ECE 319 Structural Design - Steel (4038) (D and above) OR ECE 315 Structural Engineering Applications II (1041) (D and above))			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
242	ECE 481	Individual Research Projects in Civil Engineering	3	6				Registration by School Administration			
243	ECE 482	Solid and Hazardous Waste Management	3	6	ECE 405 Environmental Engineering (1265) (C- and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

**Civil and Environmental Engineering**

244	MAE 201	Computer Aided Design	3	6				2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
<b>Computer Science</b>											
245	CSCI 111	Web Programming & Problem Solving	3	6			CSCI 100 Computation and Problem Solving (1078) (C- and above)	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared, World Languages, Literature and Culture			
246	CSCI 115	Programming Fundamentals	4	8			CSCI 151 Programming for Scientists and Engineers (192) (C- and above)	Biological Sciences, Chemistry	Computer Science, Mathematics, Physics, Robotics and Mechatronics, Undeclared	SSH	
247	CSCI 151	Programming for Scientists and Engineers	4	8			ROBT 102 Programming for robotics and physics (188) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above)	Computer Science, Mathematics, Physics, Robotics and Mechatronics	Biological Sciences, Chemistry, Undeclared	SSH	
248	CSCI 231	Computer Systems and Organization	3	6		CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
249	CSCI 235	Programming Languages	4	8		CSCI 152 Performance and Data Structures (489) (C and above)		Computer Science			

250	CSCI 262	Software Project Management	3	6	CSCI 152 Performance and Data Structures (489) (C and above)		Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared	SSH	
251	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
252	CSCI 344	Data Mining and Decision Support	3	6	CSCI 341 Database Systems (195) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)		Computer Science			
253	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
254	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
255	CSCI 398	Directed Study	3	6			Instructor's permission required			
256	CSCI 399	Internship II	3	6			Instructor's Permission Required			
257	CSCI 399A	Internship II - A	1	2			Instructor's permission required			
258	CSCI 399F	Internship II - F	6	12			Instructor's Permission Required			
259	CSCI 408	Senior Project I	3	6			Computer Science			
260	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)	Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared		
261	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)		Computer Science			
262	CSCI 490	Brain Computer Interface	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above)		Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared	SSH	

263	CSCI 494	Deep Learning	3	6	CSCI 390 Artificial Intelligence (643) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared		
<b>Electrical and Computer Engineering</b>											
264	ELCE 200	Introduction to Electrical Circuits	3	6				2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
265	ELCE 202	Digital Logic Design	3	6				2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

266	ELCE 203	Signals and Systems	3	6				2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
<b>Electrical and Electronic Engineering</b>											
267	EEE 238	Digital Signal and Image Processing	3	6				Registration by School Administration			
268	EEE 342	Electromagnetics	3	6				Registration by School Administration			
269	EEE 345	Power Electronics	3	6				Registration by School Administration			
270	EEE 382	Antennas and Propagation	3	6				Registration by School Administration			
271	EEE 384	Digital Integrated Circuits Design	3	6	EEE 250 Microelectronic Devices and Circuits (3152) (C- and above)			Registration by School Administration			
272	EEE 437	Capstone Project 1	3	6				Registration by School Administration			
273	EEE 448	Power Transmission and Distribution plants	3	6				Registration by School Administration			
274	EEE 450	RF and Microwave Circuit Design	3	6				Registration by School Administration			
275	EEE 452	Power Systems Protection	3	6				Registration by School Administration			
276	EEE 490	Introduction to Big Data	3	6				Registration by School Administration			

277	EEE 493	Industry 4.0	3	6				Registration by School Administration			
278	EEE 494	Modern Characterizations for Semiconductor Industry	3	6				Registration by School Administration			
279	EEE 497	Signal Processing for Communications	3	6				Registration by School Administration			
280	EEE 498	Computer Networks	3	6				Registration by School Administration			
<b>Mechanical Engineering</b>											
281	EME 354	Advanced Control Systems	3	6	BENG 219 Control Systems (728) (D and above)			Registration by School Administration			
282	EME 358	Heat Transfer	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above) AND EME 275 Fluid Mechanics I (1988) (D and above)			Registration by School Administration			
283	EME 361	Machine Design	3	6				Registration by School Administration			
284	EME 410	Aerodynamics	3	6	EME 357 Fluid Mechanics 2 (1280) (D and above)			Registration by School Administration			
285	EME 412	Heating, Ventilating, and Air Conditioning	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

286	EME 413	Computer Aided Geometric Design	3	6	EME 253 Computer Aided Engineering (1050) (C- and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
287	EME 451	Capstone project 1	3	6				Registration by School Administration			
288	EME 456	Feasibility Analysis of Clean Energy Technologies	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	
289	EME 463	Machine Dynamics II	3	6				Registration by School Administration			



290	EME 467	Vehicle Propulsion Systems	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM		
<b>Mechanical and Aerospace Engineering</b>												
291	ENG 100	Introduction to Engineering	3	6				1 year UG SEDS Chemical Engineering, 1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Electrical and Electronic Engineering, 1 year UG SEDS Mechanical Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM		

292	ENG 101	Programming for Engineers	3	6			1 year UG SEDS Chemical Engineering, 1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Electrical and Electronic Engineering, 1 year UG SEDS Mechanical Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared		
293	ENG 200	Engineering Mathematics III (Differential Equations & Linear Algebra)	3	6	MATH 162 Calculus II (170) (C and above)		2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 2 year UG SEDS Undeclared	Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Undeclared	SEDS, SMG, SSH, SoM	

**Robotics and Mechatronics**

294	ROBT 201	Mechanics: Statics and Dynamics	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above))			Robotics and Mechatronics, SMG	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
295	ROBT 203	Electrical and Electronic Circuits I with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR (PHYS 141 Physics I for non-majors with Lab (1437) (C- and above) AND PHYS 142 Physics II for non-majors with Lab (1438) (C- and above)))			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
296	ROBT 205	Signals and Sensing with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
297	ROBT 301	Mechanical Design with CAD and Machining Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
298	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
299	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
300	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		

301	ROBT 308	Industrial Automation	3	6				Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
302	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
303	ROBT 407	Machine Learning with Applications	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above) AND CSCI 152 Performance and Data Structures (489) (C and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
304	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared		
<b>School of Engineering</b>											
305	BENG 405	Project Management	3	6				Registration by School Administration			